EFFECT OF PLANK EXERCISE PHYSICAL AND PHYSIOLOGICAL VARIABLES OF ADOLESCENT SCHOOL BOYS IN PRAKASAM DISTRICT-ANDHRA PRADESH

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Abstract

In order to evaluate the real facts the detective made a challenge to examine the impact of Plank Exercise physical and physiological variables of adolescent school boys. Their aged of the subject ranged from 14 to 16 years. Selected subjects was randomly assigned to two equal groups (n=20), group I underwent Plank Exercise (PE) and group II acted as control group (CG). The Plank Exercise was given to the experimental group for 6 days per week for the period of 12 weeks. The control group did not practice in any training except their routine work. The following variables were measured with standard test items: Abdominal strength and Resting Pulse Rate. Pre and post test was conducted on separate days with warm up. The abdominal strength measured by sit-ups in counts and resting heart rate measured by bio monitor in minutes. To find out the individual effect ‘t’ test was applied at 0.05 level of significant. Further, the findings confirmed the Plank Exercises was suitable protocol to bring out the desirable changes over the abdominal strength and resting Pulse rate of adolescent school boys.

Key word: Abdominal strength and Resting Heart Rate, Plank exercises
INTRODUCTION

Sports in the present world have become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. The performance in sports is affected by various factors. So we give importance to the various fields to enhance performance such as Sports Physiology, Biochemistry, Biomechanics, Sports Training, Sports Medicine, and Sociology and sports psychology etcetera. All coaches’ trainers, physical education personnel and doctors are doing their best to improve the performance of the players of their country. Athletes/players of all the countries are also trying hard to bring laurels/medals for their countries in international competitions. From the results of the research, after doing circuit training which consisted of two programs, namely using body weight and an aerobic program, there was significant improvement in the health, cardio respiration and muscle fitness of the athlete (Anitha et al., 2018).

Planking (no, not that bizarre craze) is a simple but effective bodyweight exercise. Holding the body (light as a feather) stiff as a board develops strength primarily in the core—the muscles that connect the upper and lower body—as well as the shoulders, arms, and glutes. Plank is a physical exercise in which one holds a pushup position for a measured length. One of the most popular moves in Plank is a classic exercise used to strengthen and elongate arm and abdominal muscles. The Plank can be modified in many ways and is easy to do, making it an effective exercise for anyone, even if you don’t practice Plank you can still use this simple and effective exercise to increase core strength.

The results show that specific training, conducted during a competitive season with appropriate methods and means, improves the performance of the adolescent school boys.

Methodology

In order to address the hypothesis presented herein, we selected 40 school boys from Prakasam District-Andhra Pradesh. Their age ranged from 14 to 16 years. The subjects were randomly assigned in to two equal groups namely, Plank Exercises group (PE) (n=20) and Control group (CG) (n=20). The respective training was given to the experimental group the
6 days of the weeks for the training period of twelve weeks. The control group was not given any sort of training except their routine. The evaluated performance physical variables for abdominal strength was assessed by sit-ups unit of the measurements in counts and physiological variables for resting pulse rate was assessed by bio monitor with unit of measurements in minutes. The parameters were measured at baseline and after 12 weeks of Plank Exercises were examined. The intensity was increased once in two weeks based on the variation of the exercises. The training programme was lasted for 60 minutes’ session in a day, 6 days in a week for a period of 12 weeks’ duration. These 60 minutes included warm up for 10 minutes, 20 minutes Plank exercise, 20 minutes plank exercise and 10 minutes warm down.

**TABLE - I**

**COMPUTATION OF ‘T’ RATIO ON ABDOMINAL STRENGTH ON EXPERIMENTAL GROUP AND CONTROL GROUP**

(Scores in Numbers)

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>PRE TEST</th>
<th>POST TEST</th>
<th>NUMBERS</th>
<th>MAGNITUDE OF IMPROVEMENT</th>
<th>“T” RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>11.36</td>
<td>13.96</td>
<td>20</td>
<td>2.20</td>
<td>6.54*</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control group</td>
<td>11.33</td>
<td>11.36</td>
<td>20</td>
<td>0.96</td>
<td>0.17</td>
</tr>
</tbody>
</table>

*significant level 0.05 level (degree of freedom 2.09, 1 and 19)

Table I reveals the computation of mean, standard deviation and ‘t’ ratio on selected variable for abdominal strength of experimental group. The obtained ‘t’ ratio on abdominal strength are 6.54 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained ‘t’ values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and ‘t’ ratio on selected variable for abdominal strength of control group. The obtained ‘t’ ratio on abdominal strength were 0.17 respectively. The required table value was 2.09 for the degrees of
freedom 1 and 19 at the 0.05 level of significance. Since the obtained ‘t’ values were lesser than the table value it was found to be statistically not significant.

FIGURE- I

BAR DIAGRAM SHOWING THE MEAN VALUE ON ABDOMINAL STRENGTH OF ADOLESCENT SCHOOL BOYS ON EXPERIMENTAL AND CONTROL GROUP

TABLE - II

COMPUTATION OF ‘T’ RATIO ON RESTING PULSE RATE ON EXPERIMENTAL GROUP AND CONTROL GROUP

(Scores in Numbers)

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>PRE TEST</th>
<th>POST TEST</th>
<th>NUMBERS</th>
<th>MAGNITUDE OF IMPROVEMENT</th>
<th>“T” RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>73.40</td>
<td>68.15</td>
<td>20</td>
<td>7.15%</td>
<td>16.23*</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table I reveals the computation of mean, standard deviation and ‘t’ ratio on selected variable for resting pulse rate of experimental group. The obtained ‘t’ ratio on resting pulse rate were 16.23 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained ‘t’ values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and ‘t’ ratio on selected variable for resting pulse rate of control group. The obtained ‘t’ ratio on resting pulse rate were 0.53 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained ‘t’ values were lesser than the table value it was found to be statistically not significant.

FIGURE- II
BAR DIAGRAM SHOWING THE MEAN VALUE ON RESTING PULSE RATE OF ADOLESCENT SCHOOL BOYS ON EXPERIMENTAL AND CONTROL GROUP
DISCUSSION AND FINDINGS


Hence, it was concluded that for abdominal strength and resting pulse rate of improvement on Plank Exercises of adolescent school boys.

CONCLUSIONS

From the results of the study and discussion the following conclusions were drawn.

1. Based on the result of the study it was concluded that the 12 weeks of Plank Exercises have been significantly improved abdominal strength of adolescent school boys

2. The 12 weeks of Plank Exercises have been significantly improved resting pulse rate of adolescent school boys.

References


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